# Fast Track WSA-ENLIL + Cone model runs

2015-06-08

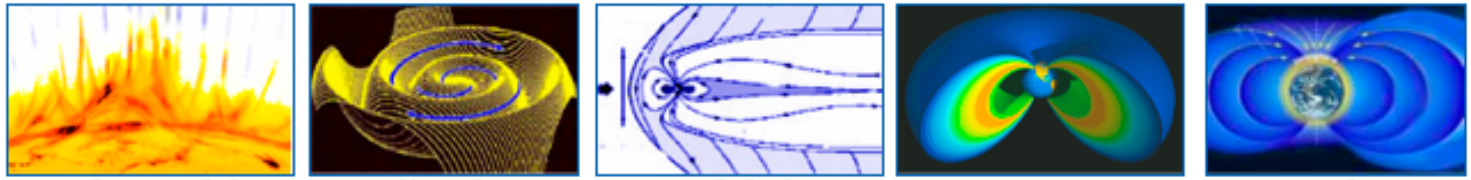
# Outline

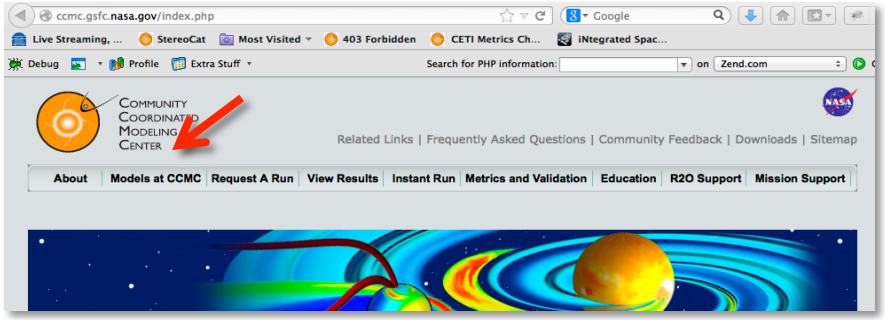
- CCMC Runs on Request System
- Submitting your FastTrack ENLIL+Cone model run
- Analysing your simulation results
- FastTrack DEMO and hands-on practice

# CCMC Runs on Request system

CCMC Runs on Request systems allows anyone to run space weather models hosted at the CCMC. There are over 30 models available for Runs on Request at:

http://ccmc.gsfc.nasa.gov

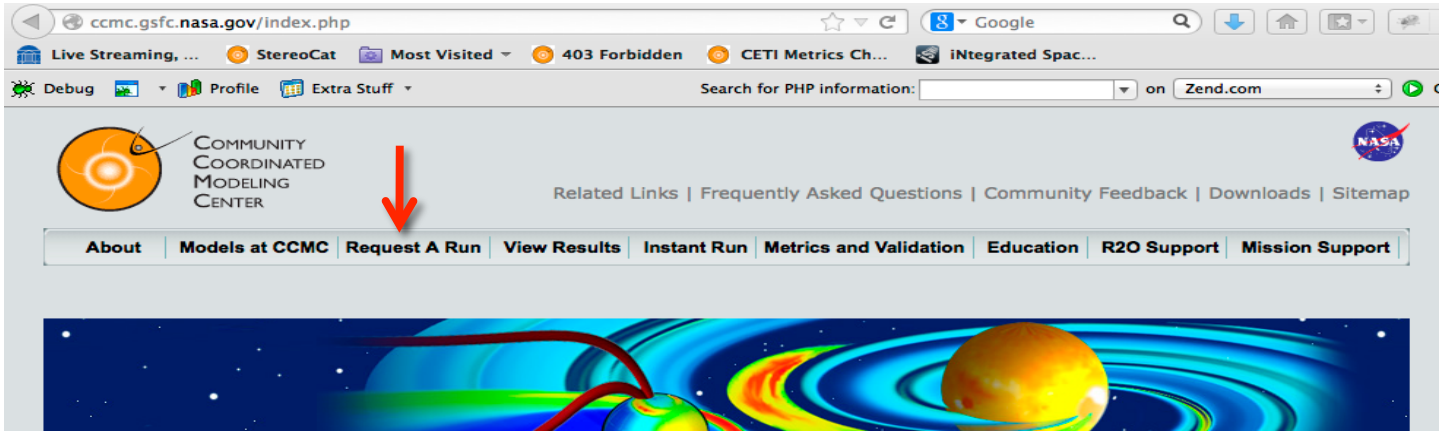


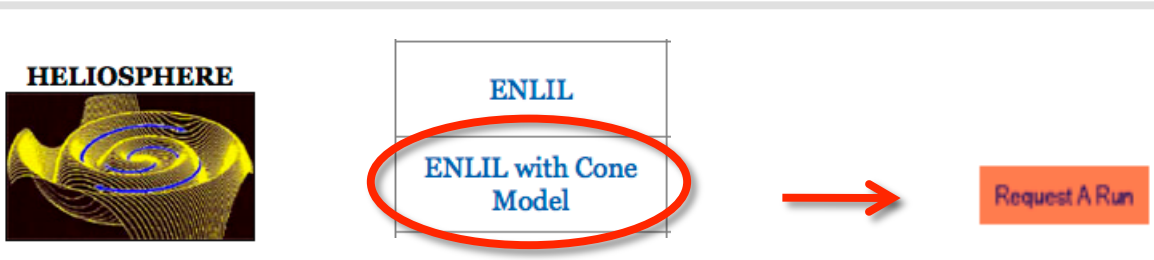



MODELS at a glance

| | | |
|---|---|---|
| CORHEL/MAS /WSA/ENLIL/ | J. Linker, Z. Mikic, R. Lionello, P. Riley, N. Arge, D. Odstrcil | PSI, AFRL, U.Colorado |
| SWMF/SC/IH | Bart van der Holst, Igor Sokolov, Ward Manchester, Gabor Toth, Darren DeZeeuw and Tamas Gombosi | CSEM |
| ENLIL | D. Odstrcil | Univ. of Colorado at Boulder |
| ENLIL with Cone Model | D. Odstrcil | Univ. of Colorado at Boulder |
| Heliospheric Tomography with SMEI data | B. Jackson, P. Hick | CASS/UCSD (SMEI) |
| Heliospheric Tomography with IPS data | B. Jackson, P. Hick | CASS/UCSD (SMEI or IPS) |
| Exospheric Solar Wind | H.Lamy, V.Pierrard | IASB-BIRA |

# Submitting FastTrack ENLIL request




**Submission for ENLIL with Cone Model requests**

Click on a link below to select how you would like to submit your request:

- Regular run submission
- **Fast Track run submission**

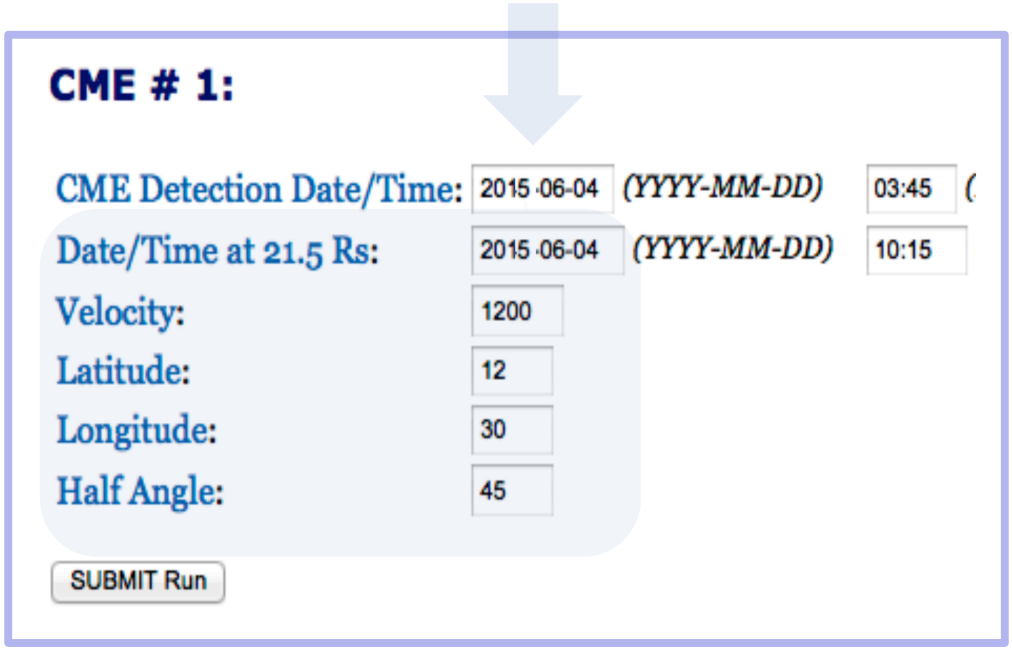
# FastTrack run submission *(cont.)*

Provide:

- your contact information,
- Run Number (you can submit a limited number of runs per day and they will be distinguished by this number)
- the number of CMEs in your simulation (limit 5)

# FastTrack run submission *(cont.)*

Enter CME parameters (e.g., parameters derived in a StereoCAT session):



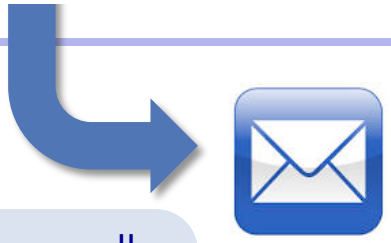
# FastTrack run submission *(cont.)*

Enter CME parameters (e.g., parameters derived in a StereoCAT session):

**CME # 1:**

| | | | |
|---|---|---|---|
| CME Detection Date/Time: | 2015-06-04 *(YYYY-MM-DD)* | 03:45 | ( |
| Date/Time at 21.5 Rs: | 2015-06-04 *(YYYY-MM-DD)* | 10:15 | |
| Velocity: | 1200 | | |
| Latitude: | 12 | | |
| Longitude: | 30 | | |
| Half Angle: | 45 | | |

SUBMIT Run



Dear

Your request has been submitted on: June 4, 2014, 3:00 pm.
The registration number for the run you submitted is:
Aleksandre_Taktakishvili_060414_SH_1.

You will receive an e-mail when the simulation(s) have finished.

We appreciate your interest in the CCMC.

Sincerely,

The CCMC staff

Run results are usually ready in 40 mins (for events within the last 3 months)

# Run completion notification

Run completion notification emails contain:

- Estimate of the CME arrival at Earth
- Estimate of the CME arrival at planets (and satellites)
- Link to the run results available on the CCMC website

```
**********************************************************
Estimate issued on  2014/06/04,  11:10:37  EST
**********************************************************

Arrival time(year/month/day, hr:min UT) =2014-06-07T05:15Z
(confidence level +-7 hours)

Duration of the disturbance (hr) = 24.6
(confidence level +-8 hours)

Minimum magnetopause standoff distance: Rmin(Re)=6.1
(under quiet conditions:  Rmin(Re)=10;
R_geosynchr(Re)=6.6)

Kp index for three possible IMF clock angles
(angle 180 gives the maximum possible estimated Kp):
(Kp)_90=4
(Kp)_135=6
(Kp)_180=6
```

```
Inner planets:

Experimental ICME estimate
**************************
Stereo A
**************************
Arrival time(year/month/day,
hr:min UT) =2010-04-22T15:03Z

**************************
Stereo B
**************************
CME did not hit the StereoB.
or
CME impact is very weak.
```

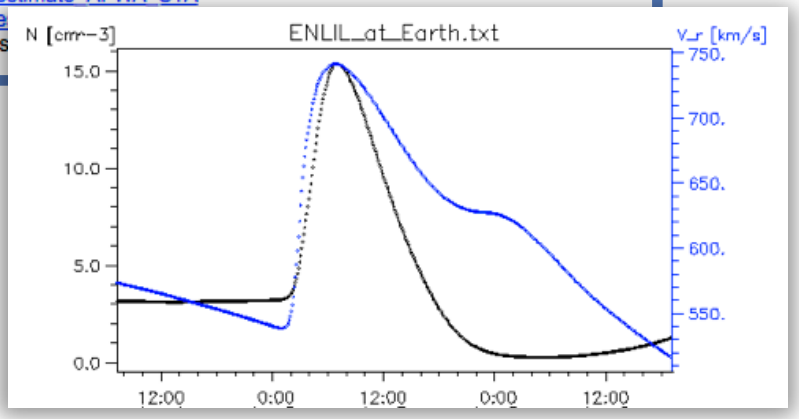
# Run results on the CCMC website

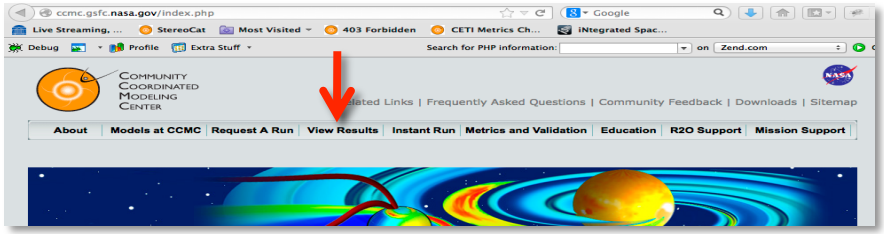
The link in the run notification email will take you to your run results page on the CCMC website.

**CME(s) parameters**
CME arrival at 21.5 Rs time(s): 2014-06-03T10:15
latitude: 12
longitude: 30
half angular width: 45
velocity: 1200

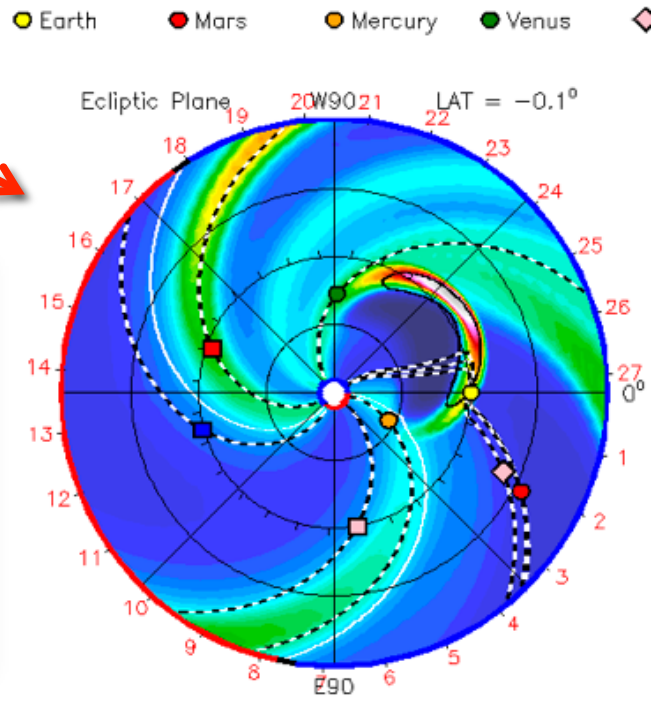
- View 3D Data
- View control file with input parameters for the run.
- View quick look graphics for the run
  Note: Quick look graphics has been designed by the model developer
  find more information regarding this option please contact the CCMC

ENLIL at Earth
ENLIL at Mars
ENLIL at Mercury
ENLIL at Stereo A
ENLIL at Stereo B
View estimate of the CME arrival time at Earth
View estimate of the CME arrival time at Earth for GICs
CME estimate AFWA Mars
CME estimate AFWA Messenger
CME estimate AFWA Spitz
CME estimate AFWA STA
CME e
View es




View all Heliosphere Runs
*(find link to your request)*



# FastTrack DEMO and practice

DEMO

iSWA layout for 2015-04-04 DEMO CME

http://1.usa.gov/1BTlgbz

Sample saved StereoCAT session for this event:

http://1.usa.gov/1GjMz48

iSWA layout for CME arrival:

http://1.usa.gov/1KVH8LG

PRACTICE

In-class assignment: submitting a FastTrack ENLIL+Cone model run:

http://bit.ly/1AGh5VB

To submit a FastTrack run go to the CCMC website:

http://ccmc.gsfc.nasa.gov

click on Request A Run tab; find ENLIL with Cone model and click Request A Run button; then select FastTrack submission